AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A thin-film deposition apparatus, comprising:

a vacuum reaction chamber and a dividing plate, the vacuum reaction chamber is divided by the dividing plate into a plasma discharge space and a film deposition process space,

the dividing plate having at least one internal space and a plurality of holes therein, the internal space is separated from said plasma discharge space and the internal space is connected with the film deposition process space, the plurality of holes connect the plasma discharge space with the film deposition process space, and a plasma is used to generate radicals in the plasma discharge space, which radicals are introduced into the film deposition process space through the plurality of holes in the dividing plate, and a precursor gas is directly introduced into the film deposition process space from the internal space, whereby the radicals and precursor gas introduced into the film deposition process space react together to deposit a film on a substrate disposed in the film deposition process space,

the dividing plate is made of at least three plates laminated together by securely bonding them over substantially an entire area of their interfacial surfaces so as to separate the radicals generated in the plasma discharge space from the precursor gas while the precursor gas is in the internal space,

wherein the internal space is divided at least into first and second diffusion sections by a middle one of the plates, and the middle plate includes a plurality of distribution holes interconnecting the first and second diffusion sections, wherein the first diffusion section includes an inlet through which the precursor gas is introduced into the first diffusion section, and the second diffusion section includes a plurality of discharge holes through which the diffused precursor gas can enter the film deposition process space,

wherein the dividing plate is arranged in the vacuum reaction chamber such that the only communication between the plasma discharge space and the film deposition process space is through the plurality of holes, and

wherein the plurality of holes have a diameter such that the precursor gas introduced into the film deposition process space is prevented from diffusing through the plurality of holes toward the plasma discharge space and are formed so as to satisfy the condition $uL/D > 1$ during operation of the apparatus, where u is the gas flow velocity inside the holes, L is the effective length of the holes, and D is the gas interdiffusion coefficient.

2. (Previously Presented) A thin-film deposition apparatus, comprising:

a vacuum reaction chamber and a dividing plate, the vacuum reaction chamber is divided by the dividing plate into a plasma discharge space and a film deposition process space, the dividing plate having internal spaces and a plurality of holes therein, the internal spaces are separated from said plasma discharge space and the internal spaces are connected with the film deposition process space, the

plurality of holes connect the plasma discharge space with the film deposition process space, and a plasma is used to generate radicals in the plasma discharge space, which radicals are introduced into the said film deposition process space through the plurality of holes in the dividing plate, and a precursor gas is directly introduced into the film deposition process space from the internal spaces, whereby the radicals and precursor gas introduced into the film deposition process space react together to deposit a film on a substrate disposed in the film deposition process space,

the dividing plate is made of a plurality of laminated plates connected together by securely bonding them over substantially an entire area of their interfacial surfaces so as to separate the radicals generated in the plasma discharge space from the precursor gas while the precursor gas is in the internal spaces,

wherein the dividing plate is fixed by caulking with a plurality of metal fixings to securely bond the plurality of laminated plates over the entire area of their interfacial surfaces, and the plurality of holes provided in the dividing plate are provided through the plurality of metal fixings.

3. (Original) The thin-film deposition apparatus according to Claim 1, wherein the dividing plate is configured by screwing a plurality of metal fixings provided with threaded parts on the outside thereof into the plurality of laminated plates, thereby securely bonding them over the entire area of their interfacial surfaces, and the plurality of holes provided in the dividing plate are provided through the plurality of metal fixings.

4. (Previously Presented) The thin-film deposition apparatus according to Claim 1, wherein the dividing plate is made by connecting together the laminated plates by securely bonding them over the entire area of their interfacial surfaces, and the plurality of holes provided in the dividing plate are formed by piercing through it at positions where the internal space is not disposed.

5. (Cancelled)

6. (Previously Presented) The thin-film deposition apparatus according to Claim 2, wherein the plurality of holes are formed so as to satisfy the condition $uL/D > 1$, where u is the gas flow velocity inside the holes, L is the effective length of the holes, and D is the gas interdiffusion coefficient.

7 - 8. (Cancelled)

9. (Currently Amended) A thin-film deposition apparatus, comprising:

a vacuum reaction chamber; and

a dividing plate separating the vacuum reaction chamber into a plasma discharge space and a film deposition space;

the dividing plate includes a at least three plates laminated together at their interfacial surfaces and having at least one internal space that is connected to the film deposition space, the dividing plate further having a plurality of holes that

connect the plasma discharge space to the film deposition space, and which plurality of holes are distinct from the internal space, wherein the dividing plate is made of electrically conductive material;

wherein the plurality of plates are bonded together over a sufficiently large portion of the interfacial surfaces so as to prevent radicals passing through the plurality of holes from passing between any of the plurality of plates into the internal space so as to separate the radicals generated in the plasma discharge space from a precursor gas while the precursor gas is in the internal space, wherein the plurality of plates are bonded together at an outer periphery thereof and in at least some portions of the laminated plates that are within the outer periphery, wherein the dividing plate is arranged in the vacuum reaction chamber such that the only communication between the plasma discharge space and the film deposition process space is through the plurality of holes,

wherein the internal space is divided at least into first and second diffusion sections by a middle one of the plates, and the middle plate includes a plurality of distribution holes interconnecting the first and second diffusion sections, wherein the first diffusion section includes an inlet through which the precursor gas is introduced into the first diffusion section, and the second diffusion section includes a plurality of discharge holes through which the diffused precursor gas can enter the film deposition process space,

wherein the plurality of holes have a diameter such that the precursor gas introduced into the film deposition process space is prevented from diffusing through the plurality of holes toward the plasma discharge space and are formed so as to

satisfy the condition $uL/D > 1$ during operation of the apparatus, where u is the gas flow velocity inside the holes, L is the effective length of the holes, and D is the gas interdiffusion coefficient.

10. (Original) The thin-film deposition apparatus according to Claim 9, wherein the plurality of plates are bonded together by a plurality of rivets.

11. (Original) The thin-film deposition apparatus according to Claim 9, wherein the plurality of plates are bonded together by a plurality of threaded fasteners.

12. (Original) The thin-film deposition apparatus according to Claim 10, wherein the plurality of holes extend through the rivets.

13. (Original) The thin-film deposition apparatus according to Claim 11, wherein the plurality of holes extend through the threaded fasteners.

14. (Original) The thin-film deposition apparatus according to Claim 9, wherein all of the interfacial surfaces are bonded together.

15. (Currently Amended) A dividing plate for a thin-film deposition chamber having a vacuum reaction chamber that includes a plasma discharge space and film deposition space, the dividing plate comprising:

at least three plates laminated together at their interfacial surfaces;

at least one internal space within the dividing plate, the internal space being connected to the film deposition space; and

a plurality of holes extending through the dividing plates so as to connect the plasma discharge space and the film deposition space, the plurality of holes being distinct from the internal space;

wherein the plurality of plates are bonded together over a sufficiently large portion of the interfacial surfaces so as to prevent radicals passing through the plurality of holes from passing between any of the plurality of plates into the internal space so as to separate the radicals generated in the plasma discharge space from a precursor gas while the precursor gas is in the internal space, wherein the plurality of plates are bonded together at an outer periphery thereof and in at least some portions of the laminated plates that are within the outer periphery, wherein the dividing plate is made of electrically conductive material, wherein the dividing plate is arranged in the vacuum reaction chamber such that the only communication between the plasma discharge space and the film deposition process space is through the plurality of holes,

wherein the internal space is divided at least into first and second diffusion sections by a middle one of the plates, and the middle plate includes a plurality of distribution holes interconnecting the first and second diffusion sections, wherein the first diffusion section includes an inlet through which the precursor gas is introduced into the first diffusion section, and the second diffusion section includes a plurality of discharge holes through which the diffused precursor gas can enter the film deposition process space, and

wherein the plurality of holes have a diameter such that the precursor gas introduced into the film deposition process space is prevented from diffusing through the plurality of holes toward the plasma discharge space and are formed so as to satisfy the condition $uL/D > 1$ during operation of the apparatus, where u is the gas flow velocity inside the holes, L is the effective length of the holes, and D is the gas interdiffusion coefficient.

16. (Original) The dividing plate of claim 15, wherein the plurality of plates are bonded together by a plurality of rivets.

17. (Original) The dividing plate of claim 15, wherein the plurality of plates are bonded together by a plurality of threaded fasteners.

18. (Original) The dividing plate of claim 16, wherein the plurality of holes extend through the rivets.

19. (Original) The dividing plate of claim 17, wherein the plurality of holes extend through the threaded fasteners.

20. (Original) The dividing plate of claim 15, wherein all of the interfacial surfaces are bonded together.

21. (Currently Amended) A thin-film deposition apparatus, comprising:

a vacuum reaction chamber;

means for dividing the vacuum reaction chamber into a plasma discharge space and a film deposition space;

the dividing means includes at least one internal space for retaining a precursor gas, said internal space being connected to the film deposition space;

the dividing means further including means, distinct from the internal space, for communicating radicals from the plasma discharge space to the film deposition space;

the dividing means including at least three plates bonded together over a sufficiently large portion of their interfacial surfaces so as to prevent radicals passing through the communicating means from passing between any of the plurality of plates into the internal space so as to separate the radicals generated in the plasma discharge space from a precursor gas while the precursor gas is in the internal space, wherein the dividing means is made of electrically conductive material, wherein the dividing means is arranged in the vacuum reaction chamber such that the only communication between the plasma discharge space and the film deposition process space is through the communicating means, and

wherein the internal space is divided at least into first and second diffusion sections by a middle one of the plates, and the middle plate includes a plurality of distribution holes interconnecting the first and second diffusion sections, wherein the first diffusion section includes an inlet through which the precursor gas is introduced into the first diffusion section, and the second diffusion section includes a plurality of

discharge holes through which the diffused precursor gas can enter the film deposition process space,

wherein the plurality of holes have a diameter such that the precursor gas introduced into the film deposition process space is prevented from diffusing through the plurality of holes toward the plasma discharge space and are formed so as to satisfy the condition $uL/D > 1$ during operation of the apparatus, where u is the gas flow velocity inside the holes, L is the effective length of the holes, and D is the gas interdiffusion coefficient.

22. (Original) The thin-film deposition apparatus according to Claim 21, wherein the plurality of plates are bonded together over substantially all of their interfacial surfaces.

23. (Original) The thin-film deposition apparatus according to Claim 21, wherein all of the interfacial surfaces are bonded together.

24. (Previously Presented) The thin film deposition apparatus according to claim 1, wherein the dividing plate is made of an electrically conductive material.

25. (Previously Presented) The thin-film deposition apparatus according to Claim 24, wherein the dividing plate is fixed by caulking with a plurality of metal fixings to securely bond the plurality of laminated plates over the entire area of their interfacial

surfaces, and the plurality of holes provided in the dividing plate are provided through the plurality of metal fixings.

26. (Previously Presented) The thin-film deposition apparatus according to Claim 24, wherein the dividing plate is made by connecting together a plurality of laminated plates by securely bonding them over the entire area of their interfacial surfaces, and the plurality of holes provided in the dividing plate are formed by piercing through it at positions where the internal space is not disposed.

27. (Cancelled)

28. (Previously Presented) The thin-film apparatus according to claim 1, wherein the dividing plate includes a plurality of internal spaces.